

## **MISSOURI WILDLIFE HARVEST AND POPULATION STATUS REPORT WILD TURKEY - 2008**

**Thomas V. Dailey, Ph.D.**  
**Resource Scientist**  
**1110 South College Avenue**  
**Columbia, MO 65201**  
**573-882-9909 Ext. 3278**  
**tom.dailey@mdc.mo.gov**

### **2008 Spring Turkey Season**

Harvest during the 2008 spring season included 2,898 turkeys checked during the 2-day youth portion and 43,416 checked during the three-week season for a total of 46,314, down 4.4% from last season (Table 1). With good weather on opening day, hunters checked about 1,000 more birds on opening day this year than they did in 2007, but the remainder of the season fell behind the pace of the 2007 harvest. The 2008 harvest is the 11th largest on record, but the smallest since 1997. This decline was expected because of poor poult production over the past few years. Juveniles comprised 17% of the 2008 harvest, reflecting the below average hatch in 2007.

Total permit sales for spring turkey hunting were 115,047 and 47,415 landowner permits were issued. Prior to 2006, we did not require landowners to purchase or obtain a permit, and, therefore landowner numbers were unknown. During spring of 2008 about 12% of landowner turkey permit holders also purchased a spring turkey permit. Therefore, assuming all landowners who received landowner turkey permits actually hunted turkeys on their land, our estimated number of turkey hunters (including landowners) is 156,768. The number of nonresident turkey hunting permits issued was 8,228, a slight decrease from 8,988 sold in 2007. Top counties in the 2008 spring turkey season were Franklin County with 838 turkeys checked, Texas County with 801, and Osage County with 696.

### **2008 Brood Survey**

The 2008 statewide poult-to-hen ratio of 1.06 is 4.9% below last year, and 23.7%, 40.7%, and 43.3% below the 5-, 10-, and 48-year averages, respectively (Table 2). Our volunteer observers saw few broods in June, which was expected because of the cool, wet, and late spring. The poor poult production of the last two years, 1 poult per hen, is near the record low of 0.8 poults per hen counted in 1960. However, because of the large population of mature turkeys today, Missouri still had >400,000 turkeys last spring.

Across turkey production regions, poult-to-hen ratios ranged from a low of 0.72 in the West Prairie to a high of 1.33 in the Union Breaks (Table 2, Figure 1).

## **2008 Fall Firearms Turkey Season**

Fall turkey hunting participation typically tracks summer poult production. With a second straight year of near record low poult production (1 poult per hen), we expected harvest to decrease. The fall 2008 harvest of 7,391 turkeys by 17,532 permit holders (267 of which were nonresidents) continues the recent downward trend in fall turkey hunting (Figure 2). Juvenile turkeys comprised 55% of the harvest in 2008.

## **Population Index**

Since 1983, volunteer archers have recorded the number of wild turkeys, deer, and furbearers seen while bow hunting during October and November. On a statewide basis, the number of wild turkey sightings per 1,000 hours of bow-hunting in 2007 was 460, which is 10% below the previous 16-year average of 513.

Spring turkey harvest, age structure in the spring harvest, population indices, hunter success, and hunter opinions provide the information needed to determine the quality of spring turkey hunting. These data are reviewed annually by the Regulations Committee.

## **Restoration**

Turkey translocation has not occurred since the winter of 2006-07 when 100 birds were released in the Mississippi Lowlands region.

## **Regulation Changes**

The Missouri Conservation Commission approved an opening day formula change for the spring turkey season in 2007. Previously the opening day of spring turkey season was the Monday closest to 21 April. The new opening date formula is the 3<sup>rd</sup> Monday in April. The formula change was an attempt to balance hunter desires with the biology of turkey reproduction. The 3<sup>rd</sup> Monday formula resulted in the 2007 season opening earlier than any modern season. Overall, the minor formula change will give us an earlier season opener during 8 years and a similar opening date as the previous formula during 12 of the next 20 years. Youth season will open earlier during 7 of the next 20 years. During 2 of the next 20 years, the opening date of the youth season will occur on 31 March in order to avoid conflict with Easter. Our earlier opener did allow us to show our responsiveness to hunters and seemed to be favored by hunters, although the weather this past spring resulted in some complaints about the season being too early. For 2009, the proposed seasons are 4-5 April for youth, and 20 April to 10 May for the regular season. The Conservation Commission approved all-day hunting for the spring youth season, beginning in 2008.

## **Hunter Harvest and Opinion Survey**

The MDC 2008 spring post-season mail survey suggests hunter attitudes and practices have not dramatically changed over the last few years. Forty-two percent of hunters chose “good” or “excellent” to describe their turkey hunting experience, and 85% reported very little

or no problem with interference from other turkey hunters. The lack of interference stems partly from the fact that 80% of respondents hunted on private land. About 65% of hunters chose “very satisfied” or “somewhat satisfied” in a question about spring turkey season regulations.

The 2008 spring turkey hunter survey revealed that support for all day hunting continues to be strong. Sixty-two percent of respondents were in favor of all day hunting for the regular season and 26% were opposed. The popularity of the all-day hunting for the 2008 youth weekend showed a substantial increase compared to a similar question asked in 2000. Favorable responses were 67% in 2008 and 48% in 2000. Most importantly, 90% of youth hunters were in favor of continuing all day hunting. Despite the poor weather throughout much of the 2008 youth spring hunting weekend, 47% of survey respondents hunted before and after 1 p.m. on the first day and 43% hunted before and after 1 p.m. on the second day.

### **Gobbling Study**

The amount of gobbling activity is a very important to spring turkey hunting quality. Over the past two years several hundred dedicated volunteers have collected data from mid-March to mid-May. Gobbling rates have varied considerably across years and regions (Figure 3), with some variation likely caused by major weather patterns. There was more gobbling in 2007 than in 2008, possibly because of the wintery spring weather in 2008. In the southern regions, the 2008 gobbling peaks were about 2 weeks later than in 2007, also likely a reflection of the late spring. Gobbling activity peaked twice in the south each year, but this classic pattern was weaker in the middle and north regions. There was much more gobbling (gobbles per 20-minute observation per week) in the north, with 2007 and 2008 peaks of 70 and 49 in the north, 39 and 28 in the middle regions, and 32 and 28 in the south, respectively. The timing of hunting season dates is intended to take advantage of a potential second peak in gobbling. Depending on the year, hunting seasons overlap portions of study weeks 5-8, a period when much gobbling is occurring (Figure 3). The gobbling study will continue through 2011, and new volunteers are added each February—go to <http://www.mdc.mo.gov/hunt/turkey/gobblecount.htm> for more information.

### **Acknowledgements**

The success of Missouri’s turkey management program depends on contributions from many individuals. Thanks to the many citizen volunteers and MDC staff who collect field data for the brood survey, archery survey and the gobbling study. The various turkey reports the Department produces are an MDC team effort with assistance from the following individuals: Jamey Decoske coordinates the brood survey and gobbling study; Ron Reitz, Martha McCrary, David Collins, Angela Hammond and the rest of the survey staff conduct hunter surveys; Julie Fleming, Sherry Gao, Greg Jones, Tom Kulowiec, Fran Lowry, Giancarlo Rhodes, Joel Sartwell and Mike Wallendorf manage and analyze data; and Linda Truesdell prepares final documents. Missouri’s comprehensive approach to turkey management is made possible by this team effort.

Table 1. Missouri spring turkey season harvest and permit sales, 1986-2008.

Year	Spring Harvest	% Change From Previous Year	Spring Permit Sales	% Change From Previous Year
2008	46,314	-4.4	115,047 <sup>f</sup>	-0.7
2007	48,472	-11	115,897 <sup>f</sup>	+1.2
2006	54,712	-5.2	114,529 <sup>f</sup>	-4.8
2005	57,743	-5.2	120,215	-3.5
2004	60,744	+3.9	124,533	- 4.2
2003	58,421	+2.4	130,021	+3.8
2002	57,034	-1.3	125,157	+6.3
2001	57,842 <sup>d</sup>	+1.7	117,736 <sup>e</sup>	+2.2
2000	56,841	+13.0	115,190 <sup>e</sup>	+3.8
1999	50,299	+3.8	110,939 <sup>e</sup>	+5.1
1998 <sup>a</sup>	48,462	+45.9	105,518	+5.6
1997 <sup>c</sup>	33,216	-12.4	99,933	+0.1
1996	37,708	+0.3	99,879	+0.5
1995	37,472	-1.2	99,412	+8.8
1994	37,721	+9.8	90,810	0.0
1993	34,354	+4.0	89,899	+0.1
1992	33,035	+2.5	89,803	+0.8
1991	32,237	+7.3	89,077	-3.3
1990 <sup>b</sup>	30,056	-15.6	92,093	-0.9
1989	35,618	+7.3	92,901	-1.5
1988	33,187	-7.7	94,301	+10.0
1987	35,951	+16.1	85,723	+9.9
1986	30,965	+25.0	77,972	+10.3

<sup>a</sup>Three-week season, 2 bird bag limit with only 1 the first week and only 1 per day (1998-present)

<sup>b</sup>Permit fee increase.

<sup>c</sup>Two-week season, 2 bird bag limit, 1 bird per week (1986-1997)

<sup>d</sup>Includes 2 day Youth-only spring season

<sup>e</sup>Includes Youth Deer and Turkey hunting permits issued by end of spring turkey season

<sup>f</sup>Beginning in 2006, permit totals include landowner permits for resident and nonresidents; for 2008 about 12% of landowners also purchased a statewide permit; thus, estimated total turkey permits distributed for spring 2008 season was 156,768.

Table 2. Index (ratio of poult per hen) of Missouri turkey production during June-August in 2008 and previous intervals. For each year interval, the % change indicates how the 2008 index compares to the previous year, or the average for periodic intervals. The survey began in 1959, so the “Previous All Years” includes 1959-2007. Production regions are depicted in Figure 1.

Production Region	2008 Index	2-year (2007-2008) % change	5-year (2003-2007) % change	10-year (1998-2007) % change	Previous All Years % change
Northwest	0.96	-3.8%	-29.7%	-45.2%	-47.3%
Northeast	1.11	27.5%	-22.6%	-37.1%	-46.2%
Lindley Breaks	1.07	12.7%	-22.7%	-44.0%	-48.9%
Union Breaks	1.33	37.8%	-5.7%	-25.1%	-25.9%
Mississippi Lowlands	1.07	-4.6%	-54.9%	-61.8%	-50.6%
Ozarks East	1.30	8.3%	-23.6%	-36.0%	-35.9%
Ozarks West	1.01	-23.9%	-28.6%	-42.0%	-42.9%
Ozark Border	0.92	-19.4%	-27.5%	-50.5%	-52.1%
West Prairie	0.72	2.6%	-40.5%	-55.6%	-63.9%
STATEWIDE	1.06	4.9%	-23.7%	-40.7%	-43.3%

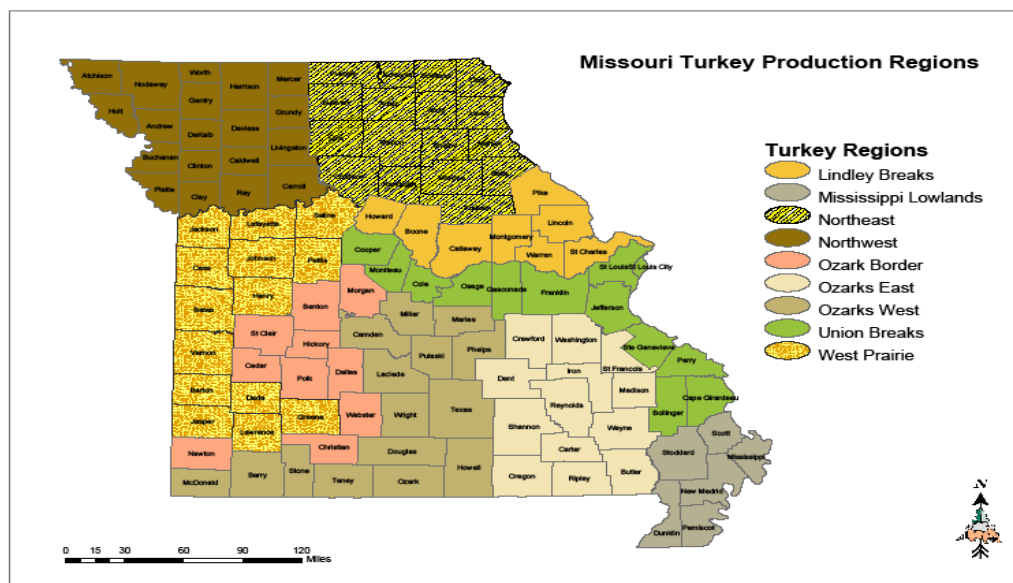


Figure 1. Missouri wild turkey production regions.

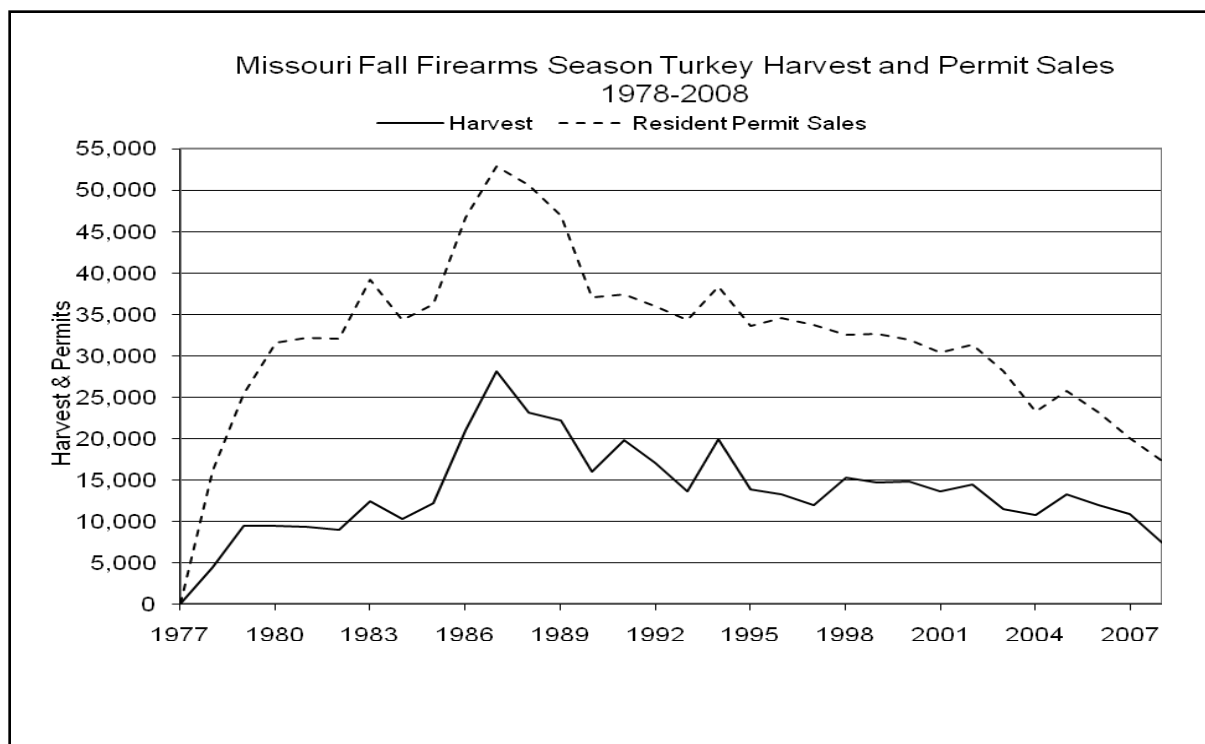


Figure 2. Estimate of Missouri fall firearms turkey harvest and permits sold from 1978 to 2008.

Note: Various changes in regulations influence the trends in harvest and permit sales, including: (1) In 1986 the bag limit was increased from 1 to 2 birds; (2) Permit cost increased in 1990; (3) New permit types in 1996 and 1997 (“all conservation” and “all hunting”) that include fall firearms turkey hunting privileges make comparisons with other years less meaningful. Although permit sales went up in 1996 and 1997 when compared to 1995, a higher proportion of permit buyers (those buying the “all conservation” and “all hunting” permit types) did not hunt. These permit types were eliminated in 1998; and (4) In 2005, fall turkey regulations were liberalized to allow hunters to take both fall birds on the same day and season length was increased from 14 to 31 days.

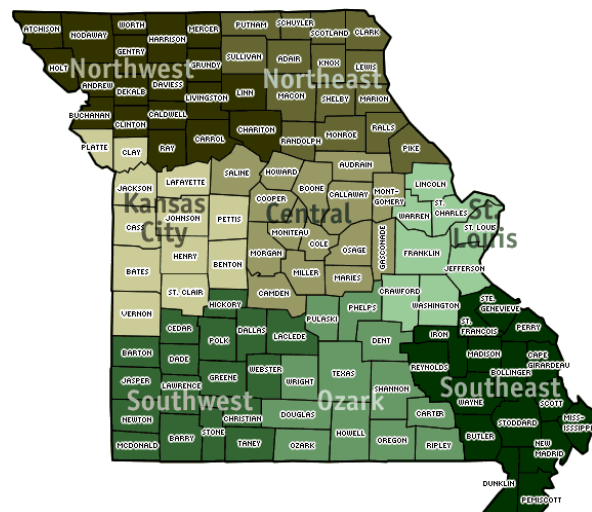
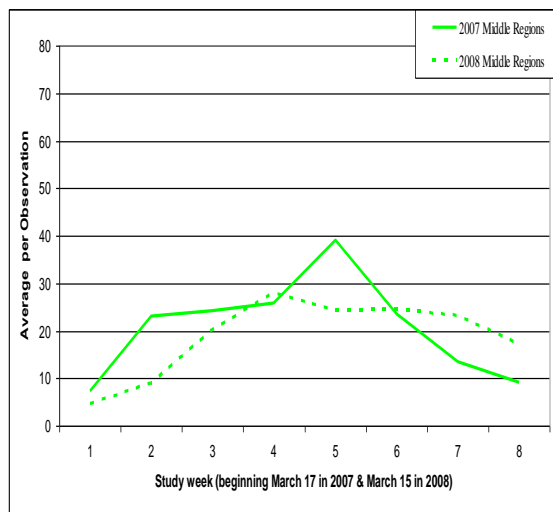
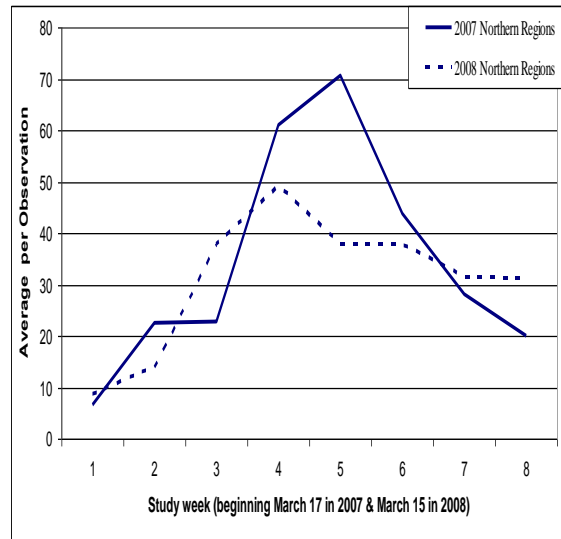
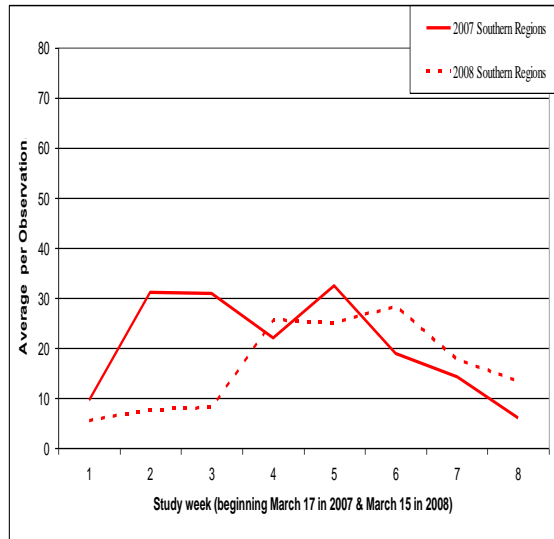


Figure 3. Estimated number of gobbles heard in Missouri per 20-minute observation per week from mid-March to mid-May. Data are divided geographically among MDC regions from south to north. Southern group includes Southeast, Ozark and Southwest regions, middle group includes Kansas City, Central and St. Louis regions and north group includes Northeast and Northwest regions. Regular hunting seasons began April 16, 2007 (week 5) and April 21, 2008 (Week 6).